

Region III Plan Summary
Approval of the 2011 Base Year Emissions Inventories for the Washington, DC-MD-VA
Nonattainment Area for the 2008 Ozone NAAQS – Final Rulemaking # 2

Title: Approval of the 2011 Base Year Emissions Inventories for the Washington, DC-MD-VA Nonattainment Area for the 2008 Ozone NAAQS

Federal Register Dates: Direct Final Rule 80 FR 43625 (July 23, 2015) Proposed Rule 80 FR 43663 (July 23, 2015)

EPA Effective date: September 21, 2015

State Submittal Date: DC: 7/17/14 MD: 8/4/14 VA: 7/17/14

Affected Area: District of Columbia Nonattainment Area including DC, Calvert, Charles, Frederick, Montgomery and Prince George Counties in Maryland and Arlington, Alexandria, Fairfax, Loudoun and Prince William Counties in VA

Summary of the Plan:

The Environmental Protection Agency (EPA) took a direct final action to approve the 2011 base year carbon monoxide (CO) emissions inventories submitted by the District of Columbia, State of Maryland, and Commonwealth of Virginia (collectively, the States) for the Washington, DC-MD-VA nonattainment area (the DC Area or Area) for the 2008 8-hour ozone National Ambient Air Quality Standard (NAAQS).

Previously, on May 13, 2015 (80 FR 27276), EPA published a direct final rulemaking action (DFRN) approving the 2011 base year emissions inventories submitted by the District of Columbia Department of the Environment (DDOE), the Maryland Department of the Environment (MDE), and the Virginia Department of Environmental Quality (VADEQ) for the DC Area for the 2008 8-hour ozone NAAQS. See EPA Docket ID number EPA-R03-OAR-2014-0759 Direct Final Rule-1.

The May 13, 2015 DFRN took action on the base year inventories submitted by the States for nitrogen oxides (NOX) and volatile organic compounds (VOC), but inadvertently did not take action on the CO base year inventories that were also part of the States' submittal. This rulemaking took action on the CO inventories.

As noted, the SIP submissions included 2011 CO inventories, which included emissions estimates that cover the general source categories of stationary point sources, stationary nonpoint sources, nonroad mobile sources, and onroad mobile sources. The emissions inventory is developed by the incorporation of data from multiple sources. States were required to develop and submit to EPA a triennial emissions inventory according to the Consolidated Emissions Reporting Rule (CERR) for all source categories (i.e., point, nonpoint, nonroad mobile, and on-road mobile). The States developed the point source emissions inventory using actual emissions directly reported by electric generating unit (EGU) and non-EGU sources in the Area. For nonpoint source emissions, emissions were estimated by multiplying an emission factor by a known indicator of activity for each source category in the county (or county-equivalent).

Nonroad mobile source emissions were determined using the EPA's NONROAD2008 model. Onroad mobile source emissions were developed using the EPA's highway mobile source emissions model MOVES 2010a.

Emissions Inventory:

States are required under section 172(c)(3) of the CAA to develop comprehensive, accurate and current accounting of actual emissions from all sources (point, nonpoint, nonroad and on road) in the nonattainment area. The CAA Section 182 (a)(1) that areas designated as nonattainment and classified as marginal are to submit an inventory of all sources of ozone precursors no later than 2 years after the effective date of designation.

The state air agencies, in collaboration with the Metropolitan Washington Council of Governments (MWCOG), developed the point source data for the 2011 base year inventory. The point source inventory contains emissions for EGU and Non-EGU sources in the NAA. EPA guidance for emissions inventory development provides that actual emissions should be used for purposes of the base year inventory. The state air agencies developed their 2011 inventory by using emissions directly reported by the facilities. MWCOG compiled the ozone season day and annual emissions provided by the state air agencies and included them in the plan. The emissions were provided at the facility level and process-level.

For the 2011 nonpoint source emissions, also known as "area sources," the state air agencies provided an inventory that contains estimations of emissions by multiplying an emission factor by some known indicator of collective activity for each source category at the county (or county-equivalent). These emissions are typically calculated on an annual basis because the activity data are generally only available on an annual basis. The state air agencies converted these annual emissions to seasonal emissions. The state air agencies defined the summer ozone season as May through September.

The 2011 nonroad mobile source inventory was prepared by MWCOG with EPA's NONROAD2008 model. NONROAD estimates fuel consumption and emissions for all nonroad mobile source categories except for aircraft, locomotives, and commercial marine vessels. EPA's NMIM2008 software (version NMIM20090504), the NMIM County Database (NCD20130531_nei2011 vl), and the NONROAD 2008a model (July 2009 version) were run for the NAA for both an average ozone season day and annual emissions. The period May through September was considered for ozone season analysis, while four season approach was adapted for developing annual emissions. Emission estimates for locomotive engines, aircraft emissions and commercial marine vessels were provided separately. The state air agencies estimated emissions separately for these sources using local data for each of their respective counties.

The onroad mobile source 2011 emissions inventory was developed using the EPA's highway mobile source emissions model MOVES 2010a. The National Capital Region Transportation Planning Board (TBP) developed transportation related inputs and ran the model using fuel and inspection and maintenance program inputs provided by the state air agencies, and meteorology inputs developed by the Metropolitan Washington Air Quality Committee (MW AQC) staff. MW AQC staff reviewed and approved these emissions.

EPA approved a revision at 40 CFR Part 52.474, 52.1075 and 52.2425 for the DC-MD-VA 2011 Base year emissions inventory for the 2008 8-hour ozone nonattainment area as described for the Affected Areas (shown above). The emissions inventory includes emissions estimates that cover the general source categories of point sources, non-road mobile sources, area sources, on-road mobile sources, and biogenic sources.

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